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ABSTRACT

Trends in veterinary school enrollments and the demand for veterinary services in 14 southern states and the United States are reviewed to help states monitor veterinarian supply and demand. Highlights include the following: in 1984-1985, southern veterinary medicine schools will produce twice as many graduates as they did a decade earlier; the south's 10 veterinary medicine schools graduated almost 700 veterinarians in 1983-1984; a somewhat higher percentage of baccalaureate recipients enter veterinary medicine schools in the South than in the nation as a whole; the gap between the South and the country in the number of active veterinarians per 100,000 population has narrowed, and the South is expected to reach the national average in the late 1980s; food animals and products accounted for $18 billion of farm income in the South in 1981, representing 46 percent of the total; in 1970 one of every three veterinarians in the South had a predominantly small animal practice; in 1981 the number was two of every three; and the proportion of veterinarians in the South who maintained a predominantly large animal practice in 1981 was virtually the same as in 1970 (one-sixth), but the proportion of veterinarians in mixed practice dropped from one-half in 1970 to one-eighth a decade later. (SW)

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VETERINARY MEDICINE: SUPPLY AND DEMAND IN THE SOUTH

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HIGHLIGHTS

- In 1984-85, Southern schools of veterinary medicine will produce twice as many graduates as they did a decade earlier. The South will be producing more than a third of the veterinary medicine graduates in the nation.

- The South's 10 veterinary medicine schools graduated almost 700 veterinarians in 1983-84. Six of these schools have opened since 1973.

- A somewhat higher percentage of baccalaureate recipients enter veterinary medicine schools in the South than in the nation as a whole.

- The gap between the South and the United States in the number of active veterinarians per 100,000 population has narrowed. The South is expected to reach the national average in the late 1980s.

- Food animals and products accounted for $18 billion of farm income in the South in 1981, representing 46 percent of the total.

- In 1970, one of every three veterinarians in the South had a predominantly small animal practice; in 1981, the number was two of every three.

- The proportion of the veterinarians in the South who maintained a predominantly large animal practice in 1981, was virtually the same as in 1970 (one-sixth), however, the proportion of veterinarians in mixed practice dropped from one-half in 1970 to one-eighth a decade later.

- According to the Committee on Veterinary Medical Sciences of the National Research Council, supply and demand for veterinary manpower are approximately in balance nationally, except for shortages in some livestock-producing regions. The Committee recommends that curricula and admissions criteria in veterinary medicine schools be adjusted to meet societal needs in environmental health protection, food production, and biomedical research, and that national guidelines for postdoctoral educational programs at veterinary colleges should be established, with high priority for support from federal and state funding.

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Veterinary Medicine:

Supply and Demand in the South

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1984

$3.50

VETERINARY MEDICINE:
Supply and Demand in the South

In the last decade, the number of veterinarians graduating from Southern institutions has spiraled. From 1946 to 1972, the South had four veterinary medicine schools; six more schools have opened since 1973.[1] These new veterinary schools and larger enrollments have meant a considerable investment of state funds--some $70 million for operating veterinary programs in 1983-84 and about $30 million for each new school built in recent years.

Demand for veterinarians continues to be an educational and economic issue in the South. Obviously, insufficient veterinary manpower for the South's agribusiness interests could hamper and limit an important part of

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[1] The 150 percent increase in the number of veterinary medicine schools in the region during a 10-year time span may be an unprecedented phenomenon of growth in an established field of professional education. Therefore, it is hardly surprising that a recent issue of a leading newspaper in one of the six states supporting a new veterinary medicine school carried a frontpage feature story entitled "Veterinary School Debate Lingers On After 10 years." The elements of the debate which were described in the article are similar to those related in this report, with one somewhat ominous addition--the revelation that one-third of the graduates of the new school have failed to pass the National Board examination. Quality rather than quantity of veterinary medical education may be the new issue on the region's veterinary medicine agenda.

the region's economy. On the other hand, a significant oversupply of veterinarians would indicate that state educational dollars are being misdirected. This report, which looks at trends in veterinary school enrollments and the demand for veterinary services in 14 Southern states and the United States, is intended to help states monitor veterinarian supply and demand.

Current and planned veterinary medicine enrollment shows continued growth through the end of the 1980s (Table 1 and Figure 1). The South

TABLE 1

Veterinary Medicine Graduates, 1982-83, and Projections of Medicine Veterinary Graduates, 1983-84 to 1989-90

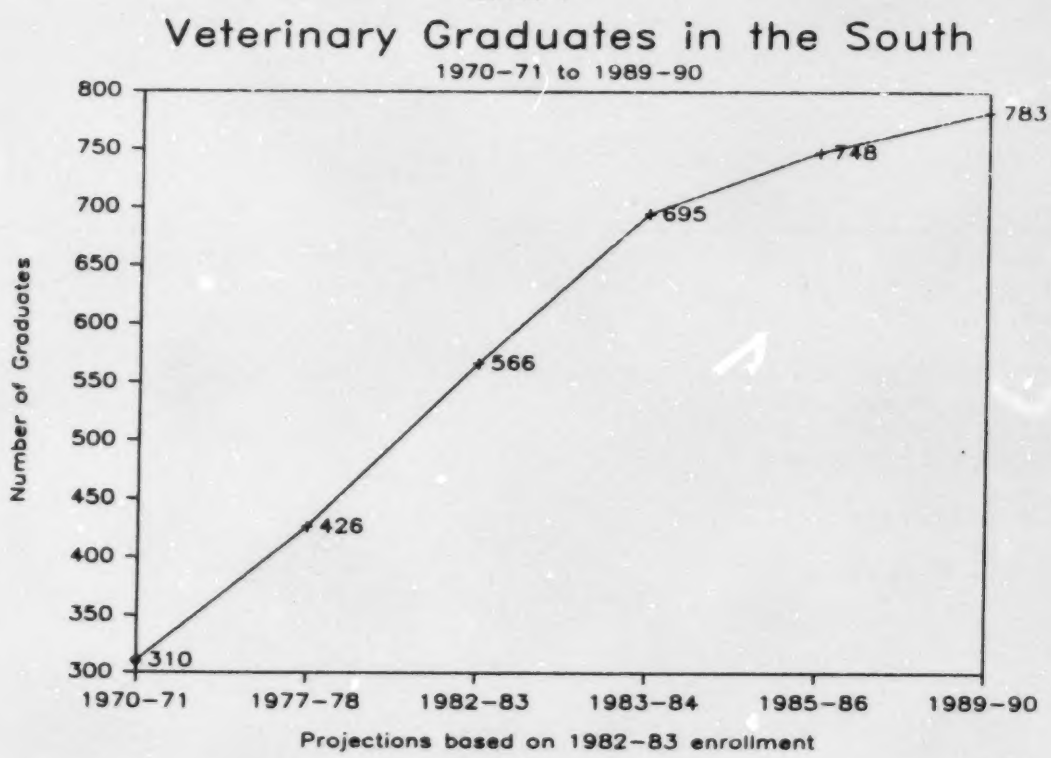
		Projections			
	1982-83	1983-84	1984-85	1985-86	1989-90
Auburn U.	113	112	114	95	93
Tuskegee Institute	55	51	53	61	63
U. of Florida	77	81	78	79	80
U. of Georgia	87	88	86	85	87
Louisiana State U.	76	76	76	78	80
Mississippi State U.	30	29	29	26	30
North Carolina State U.	0	0	40	40	72
U. of Tennessee	56	54	60	60	60
Texas A&M U.	72	142	139	135	138
Virginia Polytechnic	0	62	73	80	80
SREB Institutions	566	695	748	739	783
U.S. Institutions	2,060	2,139	2,219	2,197	2,321
South as a Percent of U.S.	27.5%	32.5%	33.4%	33.6%	33.7%

NOTE: Projected graduates in 1983-84, 1984-85, and 1985-86 are based on 1982-83 enrollments. The 1989-90 projection assumes stable enrollments from 1985-86.

SOURCE: Association of American Veterinary Medical Colleges, "Student Enrollment," Advance Data, November 2, 1983.

currently has 10 of the nation's 27 veterinary medicine schools. The graduating classes of the six new schools will boost the production of veterinarians in the South so that annual output of veterinary medicine graduates in 1990 will be more than 150 percent greater than in 1971--moving from about 28 percent of the nation's production to 34 percent. Occupational employment projections by the Bureau of Labor

FIGURE 1



Statistics indicate the number of jobs for veterinarians in the nation will increase about 31 percent between 1982 and 1995 (Monthly Labor Review, November 1983); the projected 46 percent increase in veterinary graduates should be more than adequate to meet demand.

The number of graduates from Southern veterinary medicine schools increased 65 percent from 1970-71 to 1982-83; the number of first-year students increased 121 percent during the same period (Table 2). The veterinary medicine schools at Auburn University and Texas A&M University

TABLE 2

First-Year Veterinary Medicine Enrollments and Graduates, SREB Region, 1970-71 to 1982-83

	1970-71		1977-78		1982-83	
	First-Year	Grads	First-Year	Grads	First-Year	Grads
Auburn U.	105	101	115	113	100	113
Tuskegee Institute	39	24	50	42	61	55
U. of Florida			80		80	77
U. of Georgia	69	59	86	85	86	87
Louisiana State U.			80	47	80	76
Mississippi State U.			25		29	30
North Carolina State U.					40	0
U. of Tennessee			40		60	56
Texas A&M	128	126	138	139	139	72
Virginia Polytechnic					80	0
SREB States	341	310	614	426	755	566
United States	1,432	1,239	1,936	1,667	2,252	2,060
South as a Percent of U.S.	24%	25%	32%	26%	34%	28%

SOURCES: Galambos, Eva C. Law, Medicine, Veterinary Medicine: Issues in Supply and Demand, Southern Regional Education Board, Atlanta, GA, 1978; and the Association of American Veterinary Medical Colleges, "Student Enrollment," Advance Data, November 2, 1983.

enrolled and graduated the greatest number of veterinary medicine students among Southern institutions. The new veterinary medicine school at North Carolina State University will have its first graduating class in 1984-85--Southern schools will then produce one-third of the veterinary medicine graduates in the nation.

The South lagged behind the United States in the number of state residents entering veterinary medicine schools per 100,000 population until the end of the 1970s (Table 3). Before 1973, the South had only

TABLE 3

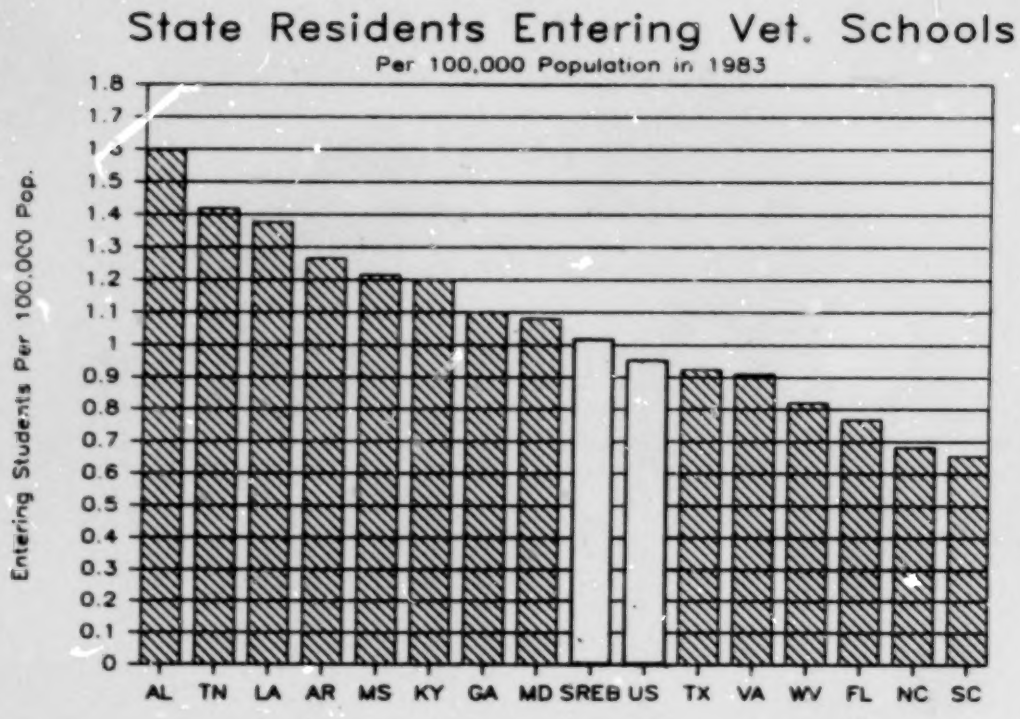
State Residents Entering Veterinary Medicine Schools, Per 100,000 Population, 1970-71, 1973-74, 1976-77, and 1982-83

	1970-71	1973-74	1976-77	1982-83
Alabama	1.10	1.07	1.58	1.60
Arkansas	0.36	0.49	1.14	1.27
Florida	0.44	0.44	0.49	0.77
Georgia	0.50	0.75	0.82	1.10
Kentucky	0.75	0.63	0.93	1.20
Louisiana	0.60	0.96	1.46	1.38
Maryland	0.38	0.47	0.60	1.08
Mississippi	0.86	0.91	0.93	1.22
North Carolina	0.37	0.51	0.64	0.68
South Carolina	0.46	0.44	0.49	0.66
Tennessee	0.38	0.59	1.02	1.42
Texas	1.09	1.15	1.11	0.92
Virginia	0.39	0.43	0.58	0.91
West Virginia	0.63	0.62	0.60	0.82
SREB Region	0.64	0.72	0.88	1.02
United States	0.70	0.77	0.98	0.95

SOURCES: Galambos, Eva C. Law, Medicine, Veterinary Medicine: Issues in Supply and Demand, Southern Regional Education Board, Atlanta, GA, 1978; and Journal of the American Veterinary Medical Association, Vol. 182, No. 7, p. 658.

four veterinary medicine schools; as new schools opened, access to veterinary medicine programs expanded. By 1982-83, the South had moved well ahead of the nation in the number of state residents entering veterinary schools per 100,000 population (Figure 2).

FIGURE 2



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The South moved ahead of the nation in the number of state residents entering veterinary medicine schools per 1,000 baccalaureates between 1977 and 1983 (Table 4).

TABLE 4

State Residents Entering Veterinary Medicine Schools, Per 1,000 Baccalaureate Degrees, 1970-71, 1973-74, 1976-77, and 1982-83

	1970-71	1973-74	1976-77	1982-83
Alabama	2.95	2.76	3.92	3.79
Arkansas	0.96	1.41	3.45	4.00
Florida	1.52	1.49	1.49	2.80
Georgia	1.65	2.26	2.44	3.58
Kentucky	2.00	1.71	2.71	3.80
Louisiana	1.62	2.52	3.51	3.92
Maryland	1.24	1.37	1.48	2.84
Mississippi	2.16	2.32	2.43	3.61
North Carolina	1.02	1.30	1.50	1.70
South Carolina	1.53	1.38	1.26	1.81
Tennessee	0.94	1.39	2.41	3.73
Texas	3.04	2.97	2.70	2.63
Virginia	1.31	1.33	1.45	2.20
West Virginia	1.38	1.36	1.40	2.14
SREB Region	1.83	1.98	2.27	2.90
United States	1.78	1.83	2.28	2.31

SOURCES: Galambos, Eva C. Law, Medicine, Veterinary Medicine: Issues in Supply and Demand, Southern Regional Education Board, Atlanta, GA, 1978; the Association of American Veterinary Medical Colleges, "Student Enrollment," Advance Data, November 2, 1983; and National Center for Education Statistics, Earned Degrees Conferred, 1969-70, (1972), 1972-73 (1975), 1975-76 (1978), and 1981-82 (advance data).

The South still has slightly fewer active veterinarians, in relation to population, than the rest of the nation. However, the gap between the South and the United States in the number of active veterinarians per 100,000 population had narrowed by 1983 (Table 5). Maryland, Texas, and

TABLE 5

Active Veterinarians and Ratios to Population, 1970, 1974, and 1983

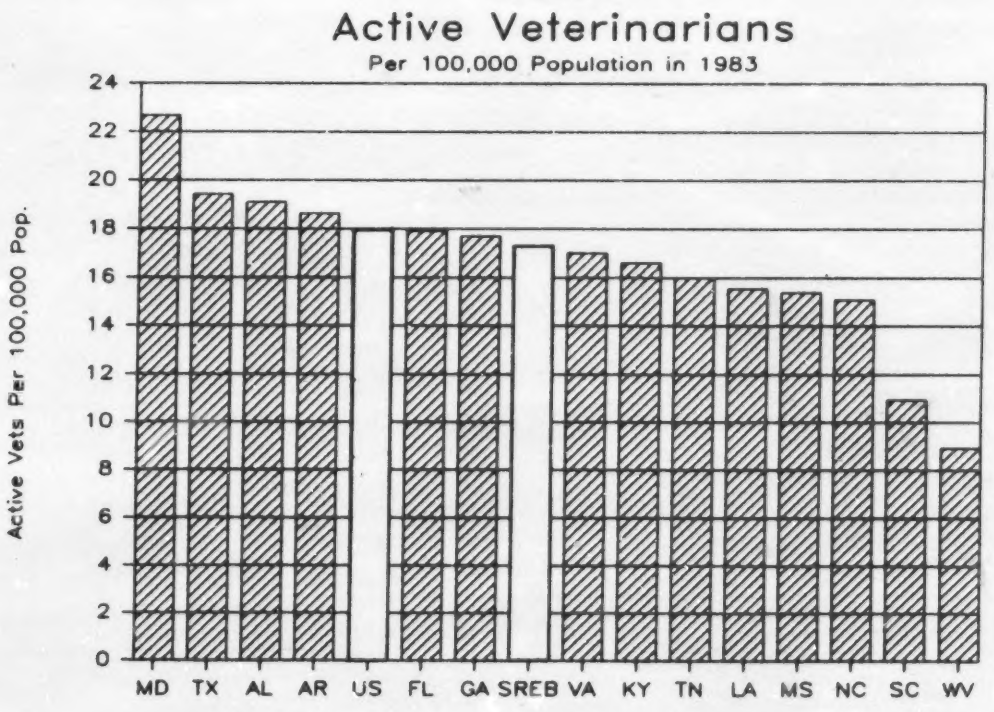
	1970		1974		1983	
	Number	Per 100,000	Number	Per 100,000	Number	Per 100,000
Alabama	440	12.8	509	14.2	753	19.1
Arkansas	210	11.0	253	12.2	427	18.6
Florida	850	12.4	1,071	13.2	1,866	17.9
Georgia	620	13.4	706	14.5	998	17.7
Kentucky	350	10.9	389	11.6	609	16.6
Louisiana	310	8.0	368	9.8	677	15.5
Maryland	640	16.3	730	17.9	967	22.7
Mississippi	210	9.7	223	9.6	392	15.4
North Carolina	410	8.0	463	8.6	908	15.1
South Carolina	200	7.8	223	8.0	351	10.9
Tennessee	340	8.7	400	9.6	744	16.0
Texas	1,640	14.6	1,910	15.9	2,968	19.4
Virginia	570	12.2	617	12.6	934	17.0
West Virginia	90	5.1	108	6.1	174	8.9
SREB Region	6,880	11.6	7,970	12.6	12,767	17.3
United States	25,800	12.7	28,700	13.6	41,554	17.9

NOTE: This table assumes that 95 percent of all veterinarians are active.

SOURCES: Galambos, Eva C. Law, Medicine, Veterinary Medicine: Issues in Supply and Demand, Southern Regional Education Board, Atlanta, GA, 1978; American Veterinary Medical Association, "Distribution By Member Status By State," correspondence October 27, 1983; and Bureau of the Census, Current Population Reports, Series P-25, No. 930, "Estimates of the Population of States, by Age: July 1, 1981, and 1982," April 1983.

Alabama led the region on this measure in 1983 (Figure 3). The relative number of active veterinarians in the South will certainly rise--the 10 veterinary medicine schools in the South will produce more than 5,300 graduates from 1984 to 1990. Moreover, it is likely that a considerable number of veterinarians are migrating to the Sunbelt. (A study of physicians has indicated that many more come to the South from other parts of the country than leave the region.)

FIGURE 3



Current data indicate that 31 percent of the veterinarians in the United States are located in the South, while 32 percent of the nation's population lives in the Southern region (Table 6). Maryland and Texas lead the region in the relative number of veterinarians; South Carolina

TABLE 6

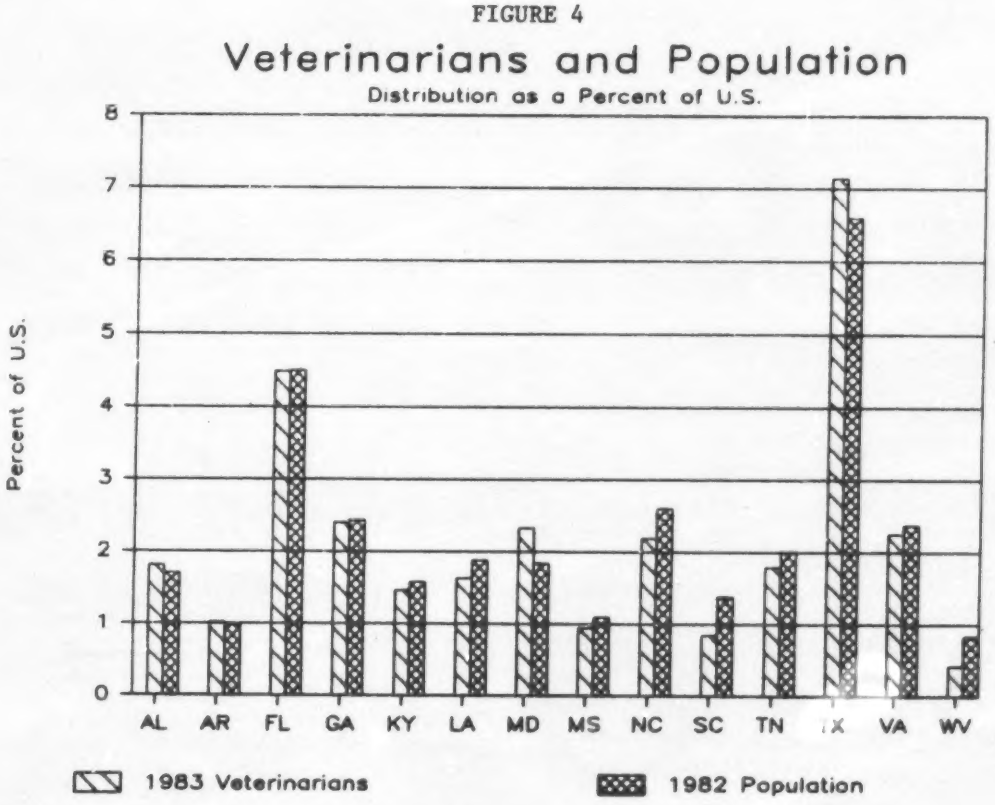
Veterinarian and Population Distribution in the United States

	Percent of United States			
	Veterinarians		Population	
	1974	1983	1974	1982
Alabama	1.7%	1.8%	1.6%	1.7%
Arkansas	0.8	1.0	0.9	1.0
Florida	3.7	4.5	3.8	4.5
Georgia	2.4	2.4	2.3	2.4
Kentucky	1.3	1.5	1.5	1.6
Louisiana	1.2	1.6	1.7	1.9
Maryland	2.5	2.3	1.9	1.8
Mississippi	0.8	0.9	1.1	1.1
North Carolina	1.6	2.2	2.5	2.6
South Carolina	0.7	0.8	1.3	1.4
Tennessee	1.3	1.8	1.9	2.0
Texas	6.6	7.1	5.6	6.6
Virginia	2.1	2.2	2.3	2.4
West Virginia	0.3	0.4	0.8	0.8
SREB Region	27.0%	30.7%	29.2%	31.8%

SOURCES: Galambos, Eva C. Law, Medicine, Veterinary Medicine: Issues in Supply and Demand, Southern Regional Education Board, Atlanta, GA, 1978; American Veterinary Medical Association, "Distribution By Member Status By State," correspondence October 27, 1983; and Bureau of the Census, Current Population Reports, Series P-25, No. 930, "Estimates of the Population of States, by Age: July 1, 1981, and 1982," April 1983.

and West Virginia have relatively fewer veterinarians than the other Southern states (Figure 4). The South's increasing number of veterinary medicine graduates should bring the region's average up to the nation's by the late 1980s.

FIGURE 4



Food animal production represents a sizable part of Southern agriculture, and advances in veterinary medicine have raised productivity and reduced losses in the food animal industry. Food animals and products accounted for $18 billion in farm income in the South in 1981, representing 46 percent of total farm income. The South provides about 30 percent of the nation's cattle, 16 percent of the nation's swine, and 85 percent of the nation's broilers (Table 7).

TABLE 7

Food Animal Distribution
In the United States

	Percent of United States					
	Cattle		Swine		Broilers	
	1976	1982	1975	1981	1975	1981
Alabama	2.2%	1.7%	1.6%	0.9%	13.4%	12.7%
Arkansas	1.8	1.8	0.6	1.0	16.4	16.5
Florida	2.2	2.1	0.4	0.4	2.1	2.3
Georgia	1.8	1.7	2.6	2.6	14.2	15.0
Kentucky	2.6	2.3	2.0	1.8	0.2	0.1
Louisiana	1.4	1.3	0.3	0.2	1.7	2.6
Maryland	0.3	0.0	0.4	0.0	6.1	6.2
Mississippi	2.1	1.7	0.7	0.6	7.8	7.1
North Carolina	0.8	1.0	3.8	3.4	9.6	10.4
South Carolina	0.5	0.6	1.0	0.8	0.9	1.1
Tennessee	2.4	2.2	1.8	1.5	0.6	1.6
Texas	12.1	12.1	1.5	1.2	5.5	5.7
Virginia	1.2	1.6	1.3	1.1	2.6	3.3
West Virginia	0.4	0.0	0.1	0.0	0.5	0.6
SREB Region	31.8%	30.2%	18.1%	15.8%	81.6%	85.0%

SOURCES: Galambos, Eva C. Law, Medicine, Veterinary Medicine: Issues in Supply and Demand, Southern Regional Education Board, Atlanta, GA, 1978; and U.S. Bureau of the Census, Statistical Abstract of the United States, 1982-83, U.S. Government Printing Office, Washington, DC, 1982.

Veterinarians are increasingly concentrating their services on small animals, especially in the South (Table 8). In 1970, about one of every three veterinarians in the South was in predominantly small animal

TABLE 8

Percent Distribution of Veterinarians by Small and Large Animal Practice, 1970, 1978, and 1981

	Predominantly Small Animal Practice			Predominantly Large Animal Practice		
	1970	1978	1981	1970	1978	1981
Alabama	34%	33%	73%	14%	12%	10%
Arkansas	30	42	57	16	15	22
Florida	57	70	84	12	10	12
Georgia	35	53	75	13	10	12
Kentucky	25	35	44	41	38	40
Louisiana	41	55	75	16	15	18
Maryland	26	36	75	10	10	17
Mississippi	33	48	63	25	24	17
North Carolina	47	64	81	7	9	10
South Carolina	39	63	81	6	7	7
Tennessee	42	50	62	22	17	17
Texas	35	50	63	17	16	20
Virginia	39	52	74	11	9	16
West Virginia	41	57	63	16	23	23
SREB Region	38	52	70	15	14	17
United States	38	50	63	23	21	27

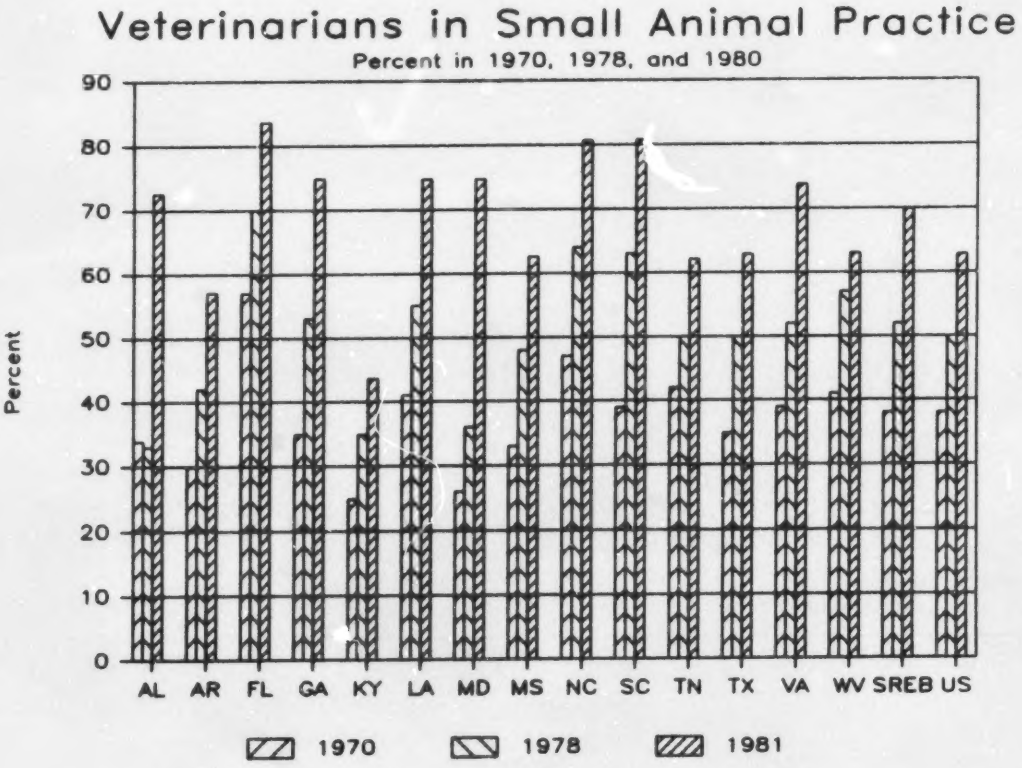
NOTES: "Predominantly" refers to exclusive or greater than 50 percent. "Large animal" includes bovine, equine, and porcine. Percentages are calculated on the basis of total AVMA members, active and non-active, in private practice. Veterinarians in mixed practice are not included, which accounts for the percentages not totaling 100 percent.

SOURCES: Galambos, Eva C. Law, Medicine, Veterinary Medicine: Issues in Supply and Demand, Southern Regional Education Board, Atlanta, GA, 1978; and American Veterinary Medical Association, "Geographic Distribution of Veterinarians in Private Practice By Type of Practice," correspondence dated October 27, 1983.

practice; a decade later, two of three were in predominantly small animal practice (Figure 5).

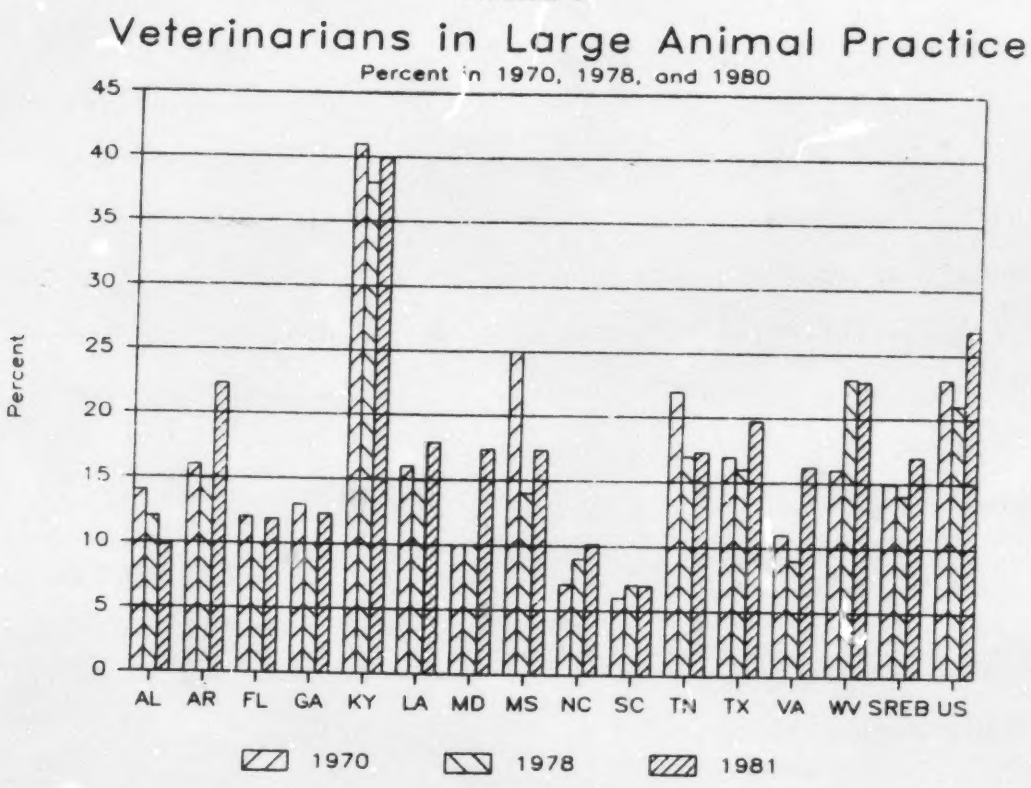
The South has 10 percent fewer veterinarians in predominantly large animal practice than the nation; only Kentucky has a greater percentage of veterinarians in large animal practice than the national average, largely because of the state's thoroughbred race horse industry (Figure 6). The income potential of pet animal practices and the appeal of urban and suburban locations have apparently reduced the attractiveness of rural

FIGURE 5



large animal veterinary practice. Some states have offered special incentives to prospective veterinary medicine students to encourage study in specialities, such as large animal practice, with mixed results to date. In states where the number of veterinarians entering large animal practice remains a concern, these efforts may have to be intensified since it appears clear that in veterinary medicine, as in medicine, just boosting the overall number of practitioners will not solve shortages in speciality or certain geographic areas.

FIGURE 6



The 1982 report by the Committee on Veterinary Medical Sciences of the National Research Council evaluating veterinary manpower at the national level offered a number of recommendations about veterinary manpower, research, and education. In Specialized Veterinary Manpower Needs Through 1990 (December 1982), the Committee reported: Veterinary manpower supply and demand are approaching a balance; a modest surplus in supply is anticipated by 1990, although with some regional shortages; the number of veterinary graduates appears to be in balance with manpower and service needs; and the demand for veterinarians in activities related to clinical patient care of animals appears not to exceed supply through the 1980s. The Committee recommended that educational opportunities (i.e. enrollment for the D.V.M.) should be stabilized at the current number.

The Committee's study noted that perceived shortages of veterinarians continue in some livestock-producing regions of the United States. It recommends that expanded community services which provide economically sound food-animal practice opportunities should be explored. Economic models for the application of animal-health expertise to the livestock industries, possibly through the provision of expanded community or other agribusiness services, are needed. Also, according to the National Research Council Committee report, incomplete knowledge about veterinary manpower should be corrected by the development of a national reporting system to determine accurately the number of veterinarians being used in all fields of employment.